

CLAIMS:

1. A NO_x control for an exhaust comprising:
a nickel compound and a NO_x adsorber, wherein the NO_x adsorber is selected for an oxygen content in said exhaust greater than about 1 molar% based on the total exhaust.
2. The NO_x control as in Claim 1, wherein said nickel compound comprises nickel oxide.
3. The NO_x control as in Claim 2, wherein said nickel compound comprises about 1% to about 100% nickel oxide based on total weight of the nickel composition.
4. The NO_x control as in Claim 2, wherein said nickel compound comprises about 50% to about 100% nickel oxide based on total weight of the nickel composition.
5. The NO_x control as in Claim 2, wherein said nickel compound comprises about 80% to about 100% nickel oxide based on total weight of the nickel composition.
6. The NO_x control as in Claim 1, wherein said nickel compound comprises a coating on said NO_x adsorber.
7. The NO_x control as in Claim 1, wherein said nickel compound comprises a plurality of particulates dispersed throughout said NO_x adsorber.
8. The NO_x control as in Claim 1, wherein said nickel compound comprises a coating on said NO_x catalyst system and further comprises a plurality of particulates dispersed throughout said NO_x adsorber.

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9. The NO_x control as in Claim 1, wherein said nickel compound is formed on a first support, and further wherein said NO_x adsorber is formed on a second support independent from said first support.

10. The NO_x control as in Claim 9, wherein said nickel compound is configured for positioning in said exhaust upstream from said NO_x adsorber.

11. The NO_x control as in Claim 1, wherein said nickel compound is formed as a structure, and further wherein said NO_x adsorber is formed on a support, said support being independent from said structure.

12. The NO_x control as in Claim 1, wherein said NO_x adsorber comprises a catalyst material and a support, said catalyst material selected from the group consisting of cesium, barium, lanthanum, silver, zirconium, and alloys, oxides, and combinations comprising at least one of the foregoing catalyst materials.

13. A system for treating an exhaust gas comprising:
a non-thermal plasma reactor; and
a NO_x control comprising a nickel compound and a NO_x adsorber, wherein the NO_x adsorber is selected for an oxygen content in said exhaust greater than about 1 molar%.

14. A system for treating an exhaust gas comprising:
a first non-thermal plasma reactor;
a particulate trap;
a second non-thermal plasma reactor; and
a NO_x control comprising a nickel compound and a NO_x adsorber, wherein the NO_x adsorber is selected for an oxygen content in said exhaust greater than about 1 molar%.

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15. A method for poison protection in an engine exhaust, comprising:

5 exposing said exhaust having an oxygen content greater than about 1 molar% to a NO_x control comprising a nickel compound and a NO_x adsorber, wherein the NO_x adsorber is selected for an oxygen content in said exhaust greater than about 1 molar%.

16. A method for forming a poison protection component in a NO_x control, comprising:

mixing, milling, or sintering a nickel compound integrally with a NO_x adsorber.

17. A method for forming a poison protection component in a NO_x control, comprising:

5 processing a nickel compound with a NO_x adsorber by mixing, milling, sintering, washcoating, imbibing, impregnating, physisorbing, chemisorbing, precipitating, vapor depositing, or any combination of at least one of the foregoing processing techniques.